

- Write the equations of the tangent line to the curve $f(x) = -\sin(x)$ when $x = \pi$.
- Given $h(x) = (3x^3 - x^2 + 10x + 2)\cos(x)$, find $h'(x)$.
- Find the derivative of the following function in simplest form: $y = \frac{3x^2 - 2}{2x - 3}$

For questions 4 – 7 use the following table to find y' at $x = 1$, if:

f(1)	f' (1)	g(1)	g' (1)
3	4	1	-2

- $y = f(x)g(x)$
- $y = \frac{f(x)}{g(x)}$
- $y = x^4 g(x)$
- $y = \frac{x^3 - 2x}{g(x)}$
- Find the coordinates of the point(s) where $f(x) = \frac{1}{4}x^4 - \frac{1}{3}x^3 - x^2$ has horizontal tangents.
- Find the equation of the tangent line to the curve, $f(x) = \frac{1}{4}x^4 - \frac{1}{3}x^3 - x^2$ when $x = -2$
- Find $f'(x)$ if $f(x) = \frac{3x^2}{x-1}$
- Find $f'(x)$ if $f(x) = 3x^2 \sin x$

Find the derivative of each of the following:

- $f(x) = 5x + 2\sqrt[3]{x} - \frac{3}{x^2}$
- $f(x) = \sin(3x+1)$
- $f(x) = \sqrt[4]{(x^2 + 5x)^3}$
- $y = \ln x^5$
- $y = e^{4x^3+2}$
- $y = x^5 - \ln(x) + 5e^2$